

## ABSTRACT OF THE DISCLOSURE

A time management section (27) is configured to change an output voltage ( $V_C$ ) in accordance with a temperature change characteristic of a lamp (11) allowed to cool down. For restart of the lamp (11) after the turn-off of the lamp (11), the lamp (11) is cooled by a fan (5) before the operation of turning on the lamp (11) when it is judged that the temperature of the lamp (11) is higher than a predetermined value, based on the output voltage ( $V_C$ ) from the time management section (27). The lamp (11) is immediately turned on without the cooling of the lamp (11) by the fan (5) when it is judged that the temperature of the lamp (11) is lower than the predetermined value.